

REPORT ON VITAL STATIS-
TICS AND HEALTH REPORTS
OF NEW YORK CITY.

BY

By the Public Health, Hospital and Budget
Committee of the New York Academy of
Medicine.

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REPORT ON VITAL STATISTICS AND HEALTH REPORTS OF NEW YORK CITY.

BY THE PUBLIC HEALTH, HOSPITAL AND BUDGET COMMITTEE OF
THE NEW YORK ACADEMY OF MEDICINE.*

The Objects of the Report.—The objects of this report are threefold: (1) To analyze briefly the scientific value of the reports and statistical tables of the New York Department of Health in order to suggest desirable improvements; (2) to impress the medical profession with the importance of complete and exact, promptly issued vital statistics, and of their service to science as well as to administration, and, finally, (3) to urge upon the city the necessity for appropriating adequate means for the reorganization of the present Bureau of Records of the Department of Health into a Bureau of Vital Statistics, which should be charged in addition to the present duties of the Bureau of Records with the scientific arrangement and interpretation of the city's vital statistics and prompt publication of the health reports.

I. *The Bookkeeping of the Public Health Movement.*—Vital statistics, or demography, may be figuratively described as the most reliable barometer for measuring social pressure. It constitutes one of the few instruments we have for accurate recording of social movements and tendencies. It is authoritatively claimed that "there is almost nothing more important in the entire field of statistics than vital statistics, because of its direct bearing upon the health

*Prepared by E. H. Lewinski-Corwin, Ph.D., Executive Secretary of the Committee. The members of the Committee are: Dr. Charles L. Dana, Chairman; Dr. J. A. Miller, Secretary; Dr. A. T. Bristow, Dr. R. J. Carlisle, Dr. Haven Emerson, Dr. A. G. Gerster, Dr. S. S. Goldwater, Dr. T. W. Hastings, Dr. L. E. Holt, Dr. J. H. Huddleston, Dr. A. Jacobi, Dr. T. C. Janeway, Dr. E. LeFevre, Dr. S. Lloyd, Dr. F. S. Meara, Dr. W. G. Thompson, Dr. P. Van Ingen, and Dr. L. R. Williams.

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and consequent welfare of the people."† Dr. Newsholme defines it as "the science of numbers applied to the health registration of communities and nations."‡ It forms an indispensable basis for the proper guidance of the public health movement and for a rational administration of a health department.

The Advisory Committee of Statisticians, appointed by the New York City Department of Health to make a study of the city's vital statistics, have, in their report, aptly defined vital statistics as "the bookkeeping of the health movement. Correct and thorough statistical data are as essential to the wise administration of the Health Department as bookkeeping to the conduct of business."§

From the scientific point of view vital statistics are of great importance. The unique opportunity scientific men have for medicosociological studies in this city of great numbers with its large variety of racial elements, diversity of occupations, and habits of life, has never been exploited. Not even the first skirmish of the field has been made. The great laboratory for eugenic research has not hitherto been utilized, except, perhaps, in a casual way. In spite of the much discussed question of so-called "race suicide," no numerical studies of this phenomenon have been made in this city. The fecundity of marriage among the various racial and economic elements of the population; the distribution of stillbirths among the various social classes; the effect of illegitimacy on infant mortality; the influence of the age of parents upon the vitality of their children; the effect of consanguinity upon the fertility of marriage; infantile diseases in relation to the age and occupation of parents; births in relation to occupation of mothers; the relation of mortality to the density of population; the proportion of males and females at birth in relation to the ages of parents, their race, and economic status; the influence of immigration upon birth, death, and morbidity rates; immunity from, or susceptibility to, disease of certain races or occupational groups in the population; all these and many other matters of vital interest have never been studied nor current beliefs regarding them put to a statistical test.

11. *The Basis for Reliable Vital Statistics.*—The two indispensable conditions for correct vital statistics are: First,

†Director of the Census in "Physicians' Pocket Reference," p. 2, quoted by Dr. Cressy L. Wilbur in "The Public Health Movement," p. 42, Phila., March, 1911.

‡"The Elements of Vital Statistics," London, 1899, p. 111.

§Monthly Bulletin of the Department of Health of the City of New York, July, 1911, pp. 153-154.

the correct enumeration of population and the reliable scientific estimates of population during intercensal periods, and, second, a complete and detailed registration of births, marriages, sicknesses, and deaths.

These two requirements must be fulfilled before any reliable results can be obtained. They are very closely interwoven, as deaths, births, marriages, and sickness, for purposes of comparison in points of time or place, must be expressed in ratios to the unit of population.

III. *The Bureau of Records: Its Growth and Duties.*—

1. *Duties of the Bureau.*—Section 1179 of the New York charter provides that there shall be two bureaus in the Department of Health, that of the Sanitary Superintendent and that of the Registrar of Records. In the latter bureau there "shall be recorded, without fees, every birth, marriage, and death, and all inquests of coroners which shall occur or be taken within the city of New York." The duties of the Bureau of Records are more complicated than the wording of the charter would indicate. First, the bureau receives and keeps on file all birth, marriage and death certificates, prepares and maintains a complete registration of physicians and midwives practising in the city, issues burial permits, makes searches of birth records for school and employment purposes, makes transcripts of said records, and recommends for prosecution violations of the law as to the filing of certificates of marriages, births, deaths, and stillbirths. Then the bureau issues weekly, monthly, and annually a detailed summary of all the births, deaths, and marriages correlated with sex and age composition of the population; it computes birth, marriage, and death rates, and also collects and tabulates information gathered by other divisions of the department relating to the health conditions of the city.

2. *The Staff of the Bureau.*—The staff of the bureau is composed of the Registrar of Records, who is a physician, and of five assistant registrars, one for each borough, who are also physicians. Clerks and tabulators make up the remainder of the staff. The bureau has not a single statistician.

3. *The Growth of the Work of the Bureau.*—With the constant large increase of population, the work of the division has grown greatly. The number of marriage, birth, and death, certificates, the issue of burial permits and transcripts, and the making of searches of birth records has increased considerably within the last decade, as seen from the following table:

Year	Marriages		Births		Deaths		Searches		Transcripts	
	Total	Per Cent. Increase Over 1900	Total	Per Cent. Increase Over 1900	Total	Per Cent. Increase Over 1900	Total	Per Cent. Increase Over 1900	Total	Per Cent. Increase Over 1900
1900	32217	....	81721	....	70872	....	28132	....	21989	....
1901	33417	3.8	80735	*1.2	70720	*.2	26361	4.6	23296	6
1902	36207	12.2	85644	4.7	68112	3.8	27340	8.8	21025	5
1903	38174	18	94755	15.9	67864	*4.2	36074	43.5	28678	50
1904	39436	22	99555	21	78060	10.1	68824	174	36468	66
1905	42675	32	103580	28	73714	4	88395	252	38333	63
1906	48385	49	111722	36	76208	7.5	90964	262	39085	78
1907	51097	58	120726	17.7	79208	11.7	98804	293	42788	95
1908	37694	16	126862	55	73072	3.1	119824	377	45783	108
1909	41513	25	127000	80.4	71105	4.5	127887	409	48009	118
1910	46417	43	127000	87	67442	8.2	140911	461	54380	148
1911	48768	51	127000	100	74423	6.4	160751	540	57500	162

*Decrease.

4. *Appropriation for the Bureau of Records.*—The appropriations for the bureau have been increasing with the work, but the increases are very much lower than those allowed in the other divisions of the department for the same period. This has enabled the bureau to continue on its beaten track, but has not allowed for any expansion in other directions which seem urgently desirable. Last year, following the recommendations of a special Committee of Statisticians appointed by the Department of Health, a request was made that the Board of Estimate and Apportionment appropriate \$45,000 for an enlargement and organization of the bureau. This money, owing to other very heavy increases in the budget for 1912, was not voted. The salary cost of the bureau for the last decade was as follows:

Year	Money Expended in Salaries	Per cent. Increase Over 1900	Year	Money Expended in Salaries	Per cent. Increase Over 1900
1900	\$78,654	....	1906	57,850	50
1901	40,022	4	1907	61,576	59
1902	41,150	6	1908	65,885	70
1903	40,313	4	1909	61,654	60
1904	42,356	10	1910	68,110	63
1905	53,245	38	1911	62,075	61

IV. *New York City Vital Statistics.*—1. *Their Contents and Volume.*—The tables of the last annual report of the Department of Health *i.e.* for 1909 do not differ from those of previous years, except that some of the former tables were omitted in 1909 in accordance with the decision of the Department of Health to reduce the size of its annual reports. The 1908 report of the Bureau of Records was spread over 352 printed pages with only 18 pages of very simple descriptive matter; that for 1909 occupies but 87 pages, of which 22 contain descriptive matter and special tables. The discontinued tables were those giving (1) the deaths of males and females (each separately) by age, and cause of death in each borough; (2) the mortality according to cause, by weeks and age, with annual rates per 1,000, with meteorology, and number of deaths in public institutions, which was a very valuable table, and (3) a number of retrospective tables. All of the data of 1909 is comparable, however, with the reports of former years.

2. *Comparison of the New York Tables of Vital Statistics with Those of Paris and London.*—Comparing the New York tables of vital statistics with those of the city of Paris, one may at once notice that the Paris tables are much more complete, that they give very much more detail and more bases for correlation, especially with regard to births and marriages than do our tables. The Paris tables, for instance, divide births into living and stillborn, then they classify the two according to the legal status of the children and the age of the mother; they give the duration of pregnancy in the cases of stillborn children by the age of the mother and the number of previous births; they classify legitimate children, living and stillborn, by the sex of the children, age of the parents, duration of marriage, and according to the differences in the ages of the parents; they give the relation of age to fecundity; they report marriages by conjugal status before marriage and by the degree of consanguinity of the husband and wife, and so on. The New York report has only two tables for births and one for statistics of marriages. The most complete of all are the mortality tables, although here also there is great opportunity for improvement, especially along the lines of greater correlation and better interpretation of facts. In this respect the London vital statistics excel. The analyses contained in the reports of the Public Health Committee of the London County Council are most instructive and illuminating. They give a very clear picture of the existing

demographic and health conditions. To begin with, all the information is given by sanitary areas, the city comprising 29, such districts varying in size from 18,000 to 350,000 inhabitants. The birth rates for each sanitary area are expressed as proportions to every 1,000 persons living, and as proportions to every 1,000 married females, aged 15 to 45. Tables are given indicating the fertility of women and the relation of fertility to social conditions. Statistics of deaths are similarly given by sanitary areas, and for each both the crude death rate and the death rate corrected for differences in the age and sex constitution of the population of the several sanitary districts are given. The most detailed, however, are the tables bearing on infant mortality. The deaths are classified by causes and by very minute age groups: by weeks for the first month of life, and by months for the remainder of the year. Infantile mortality is correlated with overcrowding, and special tables for the first 12 months of life are prepared. The principal epidemic diseases also find a very ample statistical description.

3. *The Scientific Value of the Tables.*—The demographic tables of this city present the minimum of information necessary for general administrative purposes. They are utterly inadequate as a guide for social or legislative action, and are of little use for scientific purposes. They do not throw any light upon such vital problems as the relation of morbidity and occupation, vitality of children, and the age of parents, the influence of illegitimacy on infant mortality, the relation of stillbirths to the occupation of mothers, the incidence of disease among the various elements of the population, etc. The cosmopolitan character of our city suggests a large number of questions of relation of race to various social phenomena, but in three instances only, where classifications are given by country of birth (instead of race or mother tongue) do our tables give any information on the matter, and, moreover, such a classification as "Austro-Hungarian" mothers (pp. 219, 220), for example, is utterly meaningless.

Furthermore, our marriage, birth, and death rates are crude rates, i. e. they express the average proportion of all deaths, births, and marriages in a unit of population, viz., 1,000. For general purposes the crude rates are satisfactory, but for a closer study of social conditions many factors which influence the death or birth rates must be eliminated before the force of other causes can be accurately determined or measured. If death rates, for instance, are to be employed as a measure of the healthfulness

of two places, the elements of age, occupation, and sex distribution must be eliminated, as some occupations are healthier than others, and as the mortality of females is at nearly all ages lower than that of males. Such correlated rates serve very often as a safeguard against erroneous conclusions, as will be illustrated in another section of this report. The New York City mortality tables contain correction for one single matter only, and that is the domicile distribution of the deceased by boroughs. By corrected mortality rates is meant there "that the death rate of each borough is corrected by the exclusion of the death of residents of the other boroughs occurring within its limits and the inclusion of the deaths of residents of the borough occurring in other boroughs."* Such corrections should be made as a matter of course and the name "corrected" not applied to it, as it may be misleading.

V. Information Which the Bureau of Records Should Furnish in Its Annual Report.—This section is not intended to give a detailed outline of all the tables which should be included in the statistical report, but simply to indicate the main divisions which seem to be essential to a comprehensive report of the demographic conditions of the community.

1. *With Regard to Marriages.*—In addition to the information given in classifying marriages by months, method of solemnizing, with three subdivisions of religious marriages, conjugal conditions at day of marriage, and color, the following statistics concerning the contracting parties should be given:

(1) *Race or Nativity.*—This would give us an insight into the degree of intermarriage among the various elements of population, also among the natives of different parts of the country. Is immigration tending to promote matings of dissimilar and unrelated blood, or is the tendency in the other direction? We could then trace the fertility of such marriages from the birth tables.

(2) *Residences.*—The residence unit in the marriage table should be made smaller than a borough. For scientific purposes the residence distribution of mates has great interest. Dr. Davenport reproduces in his book† a clipping from a Brooklyn (N. Y.) newspaper, giving the announcement of marriage licenses on a certain day in the spring of

*Annual Report of the New York City Bureau of Records, 1909, p. 244.

†Dr. C. B. Davenport, "Heredity in Relation to Eugenics," N. Y., 1911, p. 201.

1911, which shows the frequency of marriages between persons from the same address. To what extent does selection and not chance and propinquity govern the marriage phenomenon?

(3) Age, Education, and Occupation.—Marriages of minors should be given separately. Do we at present have in our society any evidences of educational and occupational selection, or are marriages contracted in an entirely haphazard way? What is the relation of selection, as far as we can measure it, with divorce?

(4) Length of Widowhood and Divorce.—Is there any relation between former conjugal condition and the marriage rate?

(5) Divorces by age and occupation of consorts, length of married life, and the number of children.

(6) The General and Corrected Marriage Rate.—The crude marriage rates should be continued for purposes of comparison with former years. A marriage rate corrected for women of marriageable age should be computed for ascertaining the actual fecundity of the population and for future and more exact comparisons.

2. *As to Births.*—The present tables of the Bureau of Records with regard to births should be amplified by tables giving the births by the months in which they occurred, by races, age of both parents, and their occupations.

Stillbirths and illegitimate births should be similarly classified, with the addition, in the case of stillbirths, of duration of pregnancy, occupation of mother, and length of work during pregnancy, if the woman was regularly employed at some occupation.

The tabulation basis should in all cases be smaller than a borough.

In view of the fact that venereal diseases are at present reportable, the number of cases of syphilis, by age, in a district should be put in close juxtaposition with the number of stillbirths in that district.

3. *As to Deaths.*—As has been stated above, our mortality tables already contain a great deal of important information. This information could be made more valuable by changing the arrangement of it and adding more material, so as to afford better means of comparison and correlation. Causes of death should, in addition to age groups, be subdivided with reference to occupations and the racial elements of the population. On the death certificate the occupation of the deceased is usually given. If this information could be made available and presented

in accordance with some standard classification of occupations, say, as that of the last Federal census, much information of great importance and value could be obtained. As it is, we have no information on the relation of occupation, disease, and mortality, with the exception of a few private monographs. Deaths and suicides should be classified according to the conjugal condition of the deceased, and death rates should be correlated with social conditions. It would be extremely important to ascertain whether the effect of social conditions on mortality is as distinct in New York as it is in London. In London the death rates from all causes—from the principal epidemic diseases, from diarrhea, from phthisis, and from other diseases—vary in an almost inverse ratio with the social condition of the population. The better the social condition, the lower is the mortality from all causes. Is this true in New York, and if so, to what extent?

Infantile mortality should be registered and published by small, uniform tabulation areas; the age subdivisions, for the first month of life at least, should be given by weeks; the causes of death of infants should be minutely subdivided; the deaths of babies and the mode of feeding should be correlated; the relation of infantile mortality and overcrowding indicated, and the influence on the infant mortality rate of general and contagious hospitals for children, and of other public institutions caring for babies, clearly presented. Moreover, in addition to tables of mortality, life tables for the total population should be periodically constructed. Our life tables need correction from time to time, and by increases in the average longevity the influence of sanitary progress could be gauged.

4. *As to Morbidity.*—There is no way of accurately ascertaining the extent of general morbidity in a community. One approximation is furnished by causes of death and the prevalence of contagious and reportable diseases. Another source of information is contained in the hospital and dispensary records. If these could be classified and presented annually in the vital statistics report, much light would be thrown, not only upon the extent of morbidity in the community, but it would also serve as a guide to the city and to charitable institutions, as well as to charitable individuals, in their disbursements for additional hospitals. A classification of hospital and dispensary cases by occupations would throw light upon the relation of disease and occupation.

With regard to a better sanitary control of infectious

diseases, the areas representing a unit of tabulation should be made uniform and much smaller than a city ward, and the principal diseases should be classified by sources of infection whenever known, as it is being done in London with reference to scarlet fever, for instance, where the following sources of infection are reported: previous case in family or house, infection by friends or neighbors, school, return cases, visiting hospitals, and other sources.

VI. *Statistical Methods*.—In order to be valuable, statistics must be exact and prepared in accordance with modern scientific methods, the tables must be carefully planned and arranged in such a way that no wrong inferences can be drawn. This has not been done in the past and therefore at the present time we are woefully lacking in a reliable basis for the preventive campaign and for social action in regard to health matters.

1. *Importance of Corrected Rates*.—For purposes of comparison the ordinary crude rates, computed on the basis of the frequency with which a phenomenon occurs in a certain fixed number of cases, say 1,000, are unsatisfactory. They very often lead to entirely wrong conclusions. In the case of Ireland, for instance, the crude birth rate has been declining for a number of years. This was attributed to the diminished fertility of the population. Dr. Newsholme and Dr. Stevenson,* analyzing the figures for their elements, demonstrated that the crude birth rate was utterly unreliable as an index to the fertility of the Irish women. Birth rates are influenced by four factors: (1) The number of women of child-bearing age in a given population; (2) the proportion of those who marry; (3) the age at which they marry, and (4) the natural fertility of the women. To establish the natural fertility of the women the other three elements affecting the birth rate must be eliminated before a proper index can be formed. By eliminating these elements it was found that the declining crude birth rate in Ireland was not due to a lower fertility of the population, but to the lower proportion of married women at child-bearing age, due to emigration.

Our city birth, marriage, and death rates are crude rates, and their main value is limited to general administrative purposes. For more detailed and intensive studies the rates must be corrected for certain factors.

2. *Need of Caution in Interpretation*.—Professor Chad-dock, in his paper on "Sources of Information Upon the

*"Decline of Human Fertility," *Journal of the Royal Statistical Society*, Vol. LXIX, 1906.

Public Health Movement,"* presents a number of very interesting illustrations showing how incomparable quantities are often compared and how erroneous conclusions are consequently reached. The report of the U. S. Department of War for the year 1899, for instance, analyzes the health conditions of the soldiers in the Philippines, and finds that the death rate among them compares favorably with the death rates of the population of Boston and Washington. This comparison is inconclusive, since soldiers are a selected, healthy class of men between the ages of 18 and 30 years, while the general population of cities is composed of people of all ages, infants and old men, healthy and sick. Many more examples drawn from various parts of the statistical field could be cited to illustrate the lack of satisfactory bases for many deductions, but this may suffice to prove the need of the skilful application of all safeguards and scientific methods to the guidance of such an important matter as the public health administration. The complex social problems of our city require constant and keen analysis of all the recorded data. Our present analyses, owing to the limited size of the staff of the Bureau of Records, are incomplete and fragmentary; they should have much broader bearings, be bolder and more intensive.

3. *Concentration of All the Statistics of the Department of Health in One Bureau.*—At the present time statistical data relating to work done and results achieved are corrected and tabulated in each separate division of the Department of Health, and this work is often performed by clerks to whom this tabulation is incidental to their other duties. This arrangement is not conducive to exactness and uniformity of work, nor to promptness in preparing reports and making them coherent and correlated. All the statistical work could be done better and more safely when performed under the direction of one bureau.

4. *Unit of Tabulation.*—The statistical information of the city is, in most cases, tabulated according to boroughs, and in some cases according to city wards, the boundaries of which were laid out long ago, and which are too large and uneven in area and in number of inhabitants. The wards of Manhattan differ in size from 78 acres (Second Ward) to 8.050 acres (Twenty-fourth Ward). The wards, moreover, do not coincide with social and racial groupings of the city population.

*"The Public Health Movement," p. 61-86, published by the American Academy of Political Sciences, Phila., March, 1911.

The unit of sanitary administration should be smaller than a ward and more elastic, more adaptable to the shifting of the population. The 40-acre tract units of the last Federal census to be published for this city present an excellent opportunity for the adoption of a new tabulation basis. For some purposes the 40-acre tract unit would be too small. In such cases a larger unit comprising a number of the smaller ones could be adopted, but for some other purposes the small basic unit would be of great assistance to efficient health administration.

5. *Need of a Local Population Census.*—As has been already mentioned, the first desideratum for complete vital statistics is a correct count of the population. As the Federal census is taken every ten years, the population of the city is estimated during the intercensal years, a method which can never be exact, especially when we try to estimate the distribution of the population by occupations, races, city areas, etc., and when it is applied to such a dynamic community with so large a bulk of immigration as New York City. The last police census in the city was taken in 1895. It showed the distribution of population by sex and age in Assembly districts and city wards. It also computed the density of population by wards. In 1905 the Department of Health took a census of the population of the greater city, but the results were never tabulated, and the vital statistics of the last decade were computed on estimates of population. It is highly desirable that a local census by the Police Department be taken every ten years and its ramifications made broader than in 1895.

VII *Cooperation of the Medical Profession.*—1. *Careful and Uniform Registration.*—Of equal importance to a complete count of the population is a complete registration of marriages, births, deaths, and reportable diseases. Physicians are responsible for the registration of certain diseases, deaths, and a very large majority of births. On the accuracy of their reports the value of vital statistics depends. No valuable results can be obtained unless the medical practitioners making out the death and birth certificates take the trouble to answer all the questions carefully. Similar to a standard classification of causes of death, the Department of Health should adopt a standard classification of occupations and races by mother tongue. The following of these classifications might involve some loss of time on the part of physicians, but as scientific men and citizens they would undoubtedly realize the importance of exact registration to science and to the health adminis-

tration of the city, and would therefore readily adopt the uniform system, especially when it is realized that with respect to the scientific value of our vital statistics we are almost a generation behind the leading European countries.

2. *Statistical Instruction in Medical Colleges.*—Physicians have not been trained to appreciate the value of vital statistics. Medical colleges of this city have never offered full courses in the principles of statistics and their application to medicine and demography. In these days, when the physician is becoming more of a social factor than ever before, the need of his having a knowledge of statistical methods is constantly increasing. The branches of administration in which the professional knowledge of the physician is required are broadening, and the medical colleges should equip their students for their new opportunities, impressing upon them the value of scientific demography to the public health movement.

3. *The Medical Press.*—The medical press has hitherto given very little space to the consideration of the scientific value of public health reports. It often reproduces statistics without discussing their accuracy or significance. The health reports are rarely, if ever, analyzed and their contents or methods criticized. They constitute, perhaps, the only class of publications, public or private, which is free from the refreshing and invigorating current of vigilant, careful, and scientific scrutiny. It would be a great help and stimulus to the public health movement and to the city health administration if their reports and publications received more publicity and constructive criticism.

VIII. *Recommendations of the Advisory Committee of Statisticians of the Department of Health.*—The Department of Health Advisory Committee of Statisticians, mentioned above, realized the shortcomings of the present New York vital statistics and emphasized inadequacy of the present bureau and its staff to undertake the work on a larger scale. They accordingly advised last year the reorganization and enlargement of the bureau on scientific lines commensurate with the growth and needs of the city. All of this was incorporated in the budget estimates of the Department of Health for last year.

The Advisory Committee of Statisticians made their report in June, 1911, and they recommended the subdivision of the Bureau of Records into three sections: (1) That of Records, (2) of Research, and (3) of Publicity.

(1) The Division of Records to be charged with their present duties as outlined above.

(2) The Division of Research to be responsible for the scientific work of the bureau, for the preparation of tables, correlation of data, comparing results with former years and other places, and pointing out to the department the desirable lines of action.

(3) The Division of Publicity to be responsible for the publications of the bureau and for the general education of the public in health matters.

The Advisory Committee of Statisticians estimated that the additional cost of the enlarged and fully equipped bureau would amount to \$40,000 yearly in salaries.

The recommendations of the Advisory Committee of Statisticians of the Health Department have the full approval of our committee. The present Bureau of Records has an inadequate force of trained statisticians and inadequate means to enable it to undertake the work on a large and scientific scale indispensable for public health and for a rational administration of the Department of Health. New York City should have a fully equipped and a scientific Bureau of Vital Statistics, and should, in this respect, set an example to the rest of the country. This year, witnessing the International Congress on Hygiene and Demography, is highly appropriate as a starting point in the accomplishment of such an end. Although we are not prepared to express any opinion on the rates of salaries to be paid to the men in charge of the work, as suggested in the estimates of the Advisory Committee of Statisticians, we want to emphasize here that these must be high enough to attract men of high qualifications, intelligent to plan investigations, and able to give proper interpretation to and analysis of figures. The value of statistics was depreciated in the past because of the laxity with which they were gathered, and because of the unsoundness of generalizations derived from them by men ill qualified to make proper use of them.

IX. *Publications of the New York City Health Department*—The Department of Health publishes at the present time annual reports, weekly reports, monthly bulletins, and special studies carried on by the various divisions or by individual officers of the department. The quarterly reports have recently been discontinued.

1. *The Annual Reports*.—(1) Contents.—In former years the annual report was a stout, two volume publication with a lot of detailed description of the work of each division, numerous photographs, diagrams, reproductions of blanks used in the routine work of the department, and

a number of monographs prepared by employees of the department, too extensive to be published in medical journals or magazines. The annual reports contained a great deal of detailed and superfluous information. In 1909 the size of the report was, with no harm to its value, cut from 1,234 pages, which was the size of the two volume 1908 report, to one volume of 305 pages.

(2) Lack of Careful Editing.—The editing of the reports has been negligent. The reports lack unity and congruity. Certain records of one year are often incomparable with similar records of former years. Information on some points is lacking, while on others it is repeated several times. In the section on the Child Hygiene Division we find in the report for 1909 the same table reproduced (pp. 181 and 183), once under the caption of "Communicable Diseases of Eye and Skin," and again under "Eye and Skin Diseases." What is worse than the repetition, however, is the fact that the first table reports 14,621 cases of miscellaneous diseases, while the other (on the next page) reports 179,545 such cases. The reader is left to guess which of the two reports is correct. By careful editing the report could be still further reduced with no curtailment of essential descriptive information. Many of the tables which are scattered throughout the report could be advantageously included in the report of the Bureau of Records, and correlated with other demographic data.

(3) Delays in Publication.—The annual reports contain a great deal of essential and highly interesting information, which is, however, rendered almost valueless (except for retrospective purposes) by the late issuance of the publications. At the time of this writing, early in September, 1912, the report for 1909 is the last available. For three years we have been without information as to the work of the department. This shortcoming, which is shared by all the publications of the Health Department, is a matter of great public concern, and the department should be able to find a way for remedying it. The delay is attributed to the large amount of "red tape" involved in the present arrangement for printing, whereby every report intended for publication must go for approval to the Board of the City Record, to the Department of Finance, and to some other departments before it reaches the printer. It is claimed that the reports leave the press in the same round-about way. Without attempting to locate the responsibility for the deplorable delays, one questions the wisdom of issuing at all reports which appear so late, especially the

weekly and monthly ones, which are intended for current information.

2. *The Weekly Reports.*—The weekly reports have a small circulation and are designed principally for physicians and others actively interested in the health of the community.

These four page leaflets give first a summary of deaths, births, and marriages by boroughs, then cases of infectious and contagious diseases by weeks for a period of fourteen weeks, and deaths first by principal causes and by large age groups, then by causes of death more minutely specified and by smaller age groups. The fourth page of the report reproduces a summary of deaths for the last fourteen weeks, with a computed annual rate per 1,000, meteorology, and the number of deaths in institutions. The reporting of diseases by city wards was recently discontinued.

Aside from the question of the need of reporting chronic diseases by weeks, the question of the advisability of publishing these weekly summaries suggests itself when we consider that since January of this year the average delay of issuance has been twenty-three days, in some cases over a month. These delays are the more striking when compared with those of other weekly publications. The weekly reports of the U. S. Public Health and Marine Hospital Service reach New York five days after the date of publication, and the weekly reports of the Chicago Department of Health reach New York six days after the date of publication. The Chicago weekly report is always two weeks ahead of the New York report.

3. *The Monthly Bulletins.*—The publication of the monthly bulletins was begun in January, 1911. This bulletin contains, in addition to tables of vital statistics, descriptive articles and notes intended "for the instruction of the public and for the information of physicians and others concerned in public health work, to whom an account of the methods, aims, and accomplishments of the department may be of interest." It is undoubtedly a very instructive and interesting bulletin, but its value is diminished by its double aim, to be scientific and to reach the general public. Hence, alongside of discussions on the "logical basis of Dr. Nott's hypothesis," we have a piece of poetry on "swatting the fly." The bulletin reaches and instructs a certain class of citizens in the community, but it does not reach the general public, and, like other publications of the department, it appears much too late.

4. *Monograph and Reprint Series.*—The department has

recently established these two series. The first is to deal with certain problems of the department's work, the second is to disseminate in a standardized form reprints of papers on health matters which have been prepared by the department officers and published in medical journals. Six numbers of the monograph series have already appeared.

5. *Collected Studies from the Research Laboratory.*—In these studies are published the results of the work carried on by the bacteriological laboratories of the Department of Health. The studies are intended for professional men.

6. *Lack of Contact with the General Public.*—From this cursory review of the Department of Health publications we can see that the number and kind of publications are entirely sufficient for the description of the work and methods of the Department of Health, and that they are chiefly intended for physicians, social workers, and a certain class of the public. None of them is designed for the education of the masses or to supply what is considered the most effective weapon in the public health campaign. The Advisory Committee of Statisticians expressed the same opinion when they said that "the department has most inadequate and ineffective means of contact with the public, from whom it must derive its support, and through whose active cooperation alone it can achieve the largest results."*

It seems advisable to enlarge the edition of the weekly report and change its character. Most of the vital statistics given there could be omitted and relegated to the monthly bulletin; statistics of cases of contagious diseases reported, cases in hospitals, and deaths from contagious diseases should be left in, while cases of chronic diseases could be reported monthly in the bulletin. The space thereby gained could be used for popular and interestingly written information on various vital and timely topics; infantile diseases and milk stations in summer time, pneumonia in the fall, contagious diseases and school hygiene in winter, etc. Short reports of the main weekly activities of some divisions of the department could be reported there, and results of food and milk inspections could be given weekly. It would be a live and interesting publication, which the newspapers would be glad to reproduce regularly, and in this way a needed contact between the department and the public would be established. Arrangements could also be made with newspapers published in foreign languages for the periodic translation of the reports. In this way the

*Monthly Bulletin, No. 7, Vol. I, p. 154.

great masses of immigrants would be reached. The reports could also be distributed among schools, clubs, libraries, churches, and settlements. The additional cost of the publication would not be very great, as, with the cooperation of the press, the report would not need to be spread broadcast in leaflets, but through the daily and weekly journals. In this way a broad and effective educational influence of the department would be secured for the good of the community.

SUMMARY.

1. Vital statistics is the bookkeeping and accounting of the public health movement and a guide for administrative, legislative, and social action.

2. The New York vital statistics are collected and tabulated by the Bureau of Records of the Department of Health. This bureau is, in addition, charged with many other duties, and its staff is inadequate for a detailed, intensive presentation of the vital statistics of the city.

3. The information contained in the reports of the Bureau of Records is insufficient and loosely correlated. With regard to the classification of the material and the statistical methods pursued, the New York reports are inferior to those of Paris, and with regard to the interpretation and analysis of the statistics, they are much inferior to those of London.

4. The reports fail to tabulate essential information contained in the marriage, birth, death, and sickness records which would throw important light upon many sanitary and social problems of the city.

5. Much of the statistical information of the various divisions of the department is prepared independently by the several divisions, published separately, and not correlated with the essential data of the report of the Bureau of Records.

6. The tabulation areas of the reports of the Bureau of Records are boroughs, and in some instances city wards. In many cases these bases are inadequate for administrative, social, or scientific purposes.

7. The two indispensable conditions for proper vital statistics are a correct count of the population and a correct registration of marriages, births, and deaths. The first requirement is met by frequent censuses. In this city, outside of the Federal census taken every ten years, we had a police census in 1895 and a Board of Health census in 1905, the data of the latter having never been published. Hence our

rates are based on ten year estimates. As to the second requirement, the registration of births in this city is still incomplete, and in the registration of deaths there is no standard classification of occupations or of races by mother tongue, which would insure uniform, reliable, and scientific information.

8. Physicians have not yet fully realized the importance of correct vital statistics, and the medical colleges and press have not laid sufficient emphasis upon its significance.

9. The Bureau of Records needs reorganization and a larger, well trained scientific staff. The recommendations of the Advisory Committee of Statisticians, appointed by the Department of Health in 1911, for a subdivision of the bureau into a Division of Records, a Division of Research, and a Division of Publicity, are highly commendable.

10. The various publications of the Department of Health give a full description of the work of the department, but the delays in their publication detract a great deal from their value, especially for current administrative and social purposes.

11. The annual reports are usually several years late, and bear many signs of careless editing. The weekly reports have been, on an average, three weeks behind the time. The monthly reports also share in that shortcoming.

12. None of the publications of the Department of Health is designed to educate the masses of the people. They are of service to physicians and students of administration and sociology, but do not constitute a connecting link between the department and the general public.

RECOMMENDATIONS

1. That the Department of Health reorganize and enlarge the present Bureau of Records in accordance with the recommendations of the Advisory Committee of Statisticians made in 1911, and subdivide the bureau into three divisions, of Records properly, of Research, and of Publicity.

2. That the Board of Estimate and Apportionment appropriate the money necessary for the enlargement of the Bureau of Records in the interests of efficient administration and the public health movement, and that the salaries fixed for the responsible officers of the bureau be such as to enable the department to secure well trained men for the positions.

3. That the work of the reorganized bureau be under-

taken on a comprehensive scale and in accordance with modern scientific methods.

4. That all the statistical work of the department be done under the direction of the Bureau of Records to secure accuracy and uniformity of method, and that the records be promptly available.

5. That the reports of the Bureau of Records be published independent of the annual report of the Department of Health and be ready for distribution early every year.

6. That the city undertake a local population census every ten years beginning 1915, and that the forty acre tract unit of the last Federal census be made the basis for tabulation.

7. That the medical press give more analysis to public health reports and vital statistics and impress the profession with the importance of exact vital statistics, urging them to cooperate with the Bureau of Records in making prompt, careful reports.

8. That the medical colleges instruct their students in the methods and principles of medical and vital statistics.

9. That the Department of Health make greater efforts to issue promptly its annual, weekly, and monthly reports.

10. That the weekly report be changed from a purely statistical sheet to an educational pamphlet intended primarily for the general public, and that arrangements be made with the newspapers of the city for periodical reproduction of the essential parts of the report.

11. That more and better means of contact between the Department of Health and the public be established in the interest of efficient administration and of the public health movement, and that the public receive regularly information regarding the department's most vital functions—food and milk inspection, prevention of disease, and care of babies and school children.

NEW YORK, September, 1912.